WHAT IS CLAIMED IS:

1. A reagent comprising: any one of cells, viral particles, organelles, parasites, cells comprising organelles, cells comprising viral particles, cells comprising parasites, cells comprising bacterial cells and any combination thereof, said cells, viral particles, organelles or parasites comprising at least one nucleic acid sequence serving as an internal control (IC) target for nucleic acid testing (NAT) assay; wherein said reagent is suitable to be added to a test sample undergoing sample preparation to release, concentrate and/or purify nucleic acids and amplification and/or detection of nucleic; acids so as to be used to verify:

(i) the efficiency of sample preparation; and

(ii) the efficiency of nucleic acid amplification and/or detection.

2. A reagent as defined in claim 1, wherein said cells is selected from bacteria, fungi or parasites, eukaryotic cells, or plant cells.

3. A reagent as defined in claim 1, wherein said cells is selected from bacterial cells, or bacterial spores.

4. A reagent as defined in claim 3, wherein said cells are *E. coli* or said spores are Bacillus spores.

5. A reagent as defined in claim 4, wherein said spores are *Bacillus globigii* spores.

6. A reagent as defined in claim 1, wherein said organelle is a mitochondria or a chloroplast.

7. A reagent as defined in claim 1, wherein said IC target nucleic acid sequence is on a cloning vector.

8. A reagent as defined in claim 7, wherein said IC target nucleic acid sequence is on a plasmid vector.

9. A reagent as defined in claim 1, wherein said nucleic amplification method comprises PCR.

10. A reagent as defined in claim 1, wherein said IC target nucleic acid sequence is a nucleic acid sequence of clinical, environmental, alimentary or human origin.

11. A reagent as defined in claim 1, wherein said IC target nucleic acid sequence is of microbial origin.

12. A reagent as defined in claim 1, wherein said test sample comprises a sample of clinical, environmental, or alimentary origin.

13. A reagent as defined in claim 1, wherein said test sample comprises a vaginal/anal or a nasal swab.

14. A reagent as defined in claim 1, wherein said sample preparation method comprises (i) concentration and/or purification of cells, viral particles, organelles, parasites or cells comprising organelles and/or viral particles cells and/or parasites and/or bacterial cells, (ii) lysis of cells, viral particles, organelles or cells comprising

organelles and/or viral particles and/or parasites and/or bacterial cells, (iii) nucleic acid extraction, (iv) elimination, neutralization and/or inactivation of NAT inhibitors, and/or (iv) nucleic acid concentration and/or purification.

15. A method for verifying the efficiency of sample preparation and the performance of nucleic acid amplification and/or detection practiced on a test sample after its preparation, said method comprising:

(i) providing a reagent comprising any one of cells, viral particles, organelles, parasites, cells comprising organelles, cells comprising viral particles, cells comprising parasites, cells comprising bacterial cells and any combination thereof, said cells, viral particles, organelles or parasites comprising at least one nucleic acid sequence serving as an internal control (IC) target sample preparation and nucleic acid amplification and/or detection;

(ii) adding said reagent into said test sample;

(iii) submitting said test sample with said added reagent to a sample preparation procedure in order to release, purify and/or concentrate nucleic acids of both said test sample and said added reagent; and

(iv) submitting said released, purified and/or concentrated nucleic acids to amplification and/or detection.

16. A method as defined in claim 15, further comprising

(v) comparing the amplification and/or detection performed in iv) to the amplification and/or detection performed with a control reaction to evaluate the efficiency of the sample

preparation and the performance of the nucleic acid amplification and/or detection practiced said test sample.

17. The method of claim 15 or 16 wherein said sample preparation procedure comprises concentrating and/or purifying cells, viral particles, organelles or cells comprising organelles, and/or viral particles prior to lysis.

18. The method of claim 15 or 16, wherein said cells is selected from bacteria, fungi or parasites.

19. The method of claim 15 or 16, wherein said cells is *E. coli* cells.

20. The method of claim 15 or 16, wherein said cells is bacterial spores.

21. The method of claim 20, wherein said cells is *Bacillus* spores.

22. The method of claim 21, wherein said cells is *Bacillus globigii* spores.

23. The method of claim 15 or 16, wherein said IC target nucleic acid sequence is on a cloning vector.

24. The method of claim 23, wherein said IC target nucleic acid sequence is on a plasmid vector.

25. The method of claim 15 or 16, wherein said nucleic acid amplification method is PCR.

26. The method of claim 15 or 16, wherein said IC target nucleic acid sequence is nucleic acid sequence of clinical, environmental, alimentary or human origin.

27. The method of claim 15 or 16, wherein said IC target nucleic acid sequence is a nucleic acid sequence of microbial origin.

28. The method of claim 15 or 16, wherein the said test sample is a sample of clinical, environmental or alimentary origin.

29. The method of claim 15 or 16, wherein said test sample comprises a vaginal/anal or a nasal swab.

30. The method of claim 15 or 16, wherein said sample preparation method comprises (i) concentration and/or purification of cells, viral particles, organelles or cells comprising organelles and/or viral particles, (ii) lysis of cells, viral particles, organelles or cells comprising organelles and/or viral particles, (iii) nucleic acid extraction, (iv) elimination, neutralisation and/or inactivation of nucleic acid testing (NAT) inhibitors, and/or (v) nucleic acid concentration and/or purification.

31. The method of claim 15, wherein said reagent is a spore which serves as a model cell to monitor the efficiency of sample preparation and amplification and/or detection.

32. A method for verifying the efficiency of sample preparation and the performance of nucleic acid amplification and/or detection practiced on a test sample after its preparation, said method comprising:

(i) providing a reagent comprising any one of cells, viral particles, organelles, parasites, cells comprising organelles, cells comprising viral particles, cells comprising parasites, cells comprising bacterial cells and any combination thereof, said cells, viral particles, organelles or parasites comprising at least one nucleic acid sequence serving as an internal control (IC) target sample preparation and nucleic acid amplification and/or detection;

(ii) adding said reagent into said test sample;

(iii) submitting said test sample with said added reagent to a nucleic acid amplification procedure in order to release, the nucleic acid sequence of both said test sample and said added reagent; and

(iv) submitting said released nucleic acids to further amplification and/or detection.